

### **REMARKS/ARGUMENTS**

Reconsideration of this application is requested. Claims 1-14 will be pending in the application subsequent to entry of this Amendment.

The claims have been amended in order to more particularly point out and distinctly claim that which applicants regard as their invention, to address claim clarity issues raised in the outstanding Official Action and to add claims directed to preferred aspects of the description.

On page 2 of the Official Action the examiner questions various terms used in original claims 1 and 2. For instance, the term "predetermined optical property" in claim 1 and "different optical property" in claim 2 have been addressed as follows:

Claim 1 has been amended to refer to a desired phase angle and transmissivity of the half-tone film and finds basis in the description for instance in paragraph [0017]. A similar adjustment is made to claim 2.

Claim 1 is also amended to clarify the discharge characteristic to track the terminology used in the description in paragraph [0027]. Consequential changes have been made in original claim 5.

New claims 6-14 have been added directed to preferred aspects of the invention. Basis in the description for these claims 6 to 12 is as follows:

Claim 6: section [0033].

Claim 7: section [0033].

Claims 8 to 10: These claims are directed to a method for determining optimum conditions for forming a half-tone film.

Independent claim 8 is substantially the same as claim 2 that is directed to a process for manufacturing half-tone phase shifting mask blanks, although the claims are different in that one is a simple method and that the other is a manufacturing process.

Claims 9 and 10 correspond to claims 6 and 7, respectively.

Claims 11 and 12: While these claims have no exact text in the description, when the entire text is read, these claims will be apparent .

Claims 13 and 14: section [0034] relates to variations of the transmission and shifting amount, which variations are small.

It is submitted that the above amendments to the claims as well as the new claims respond to the comments on page 2 of the Official Action and renders all of the claims now under consideration compliant with 35 USC §112, second paragraph. Favorable consideration is requested.

Claims 1-5 are rejected as either being anticipated by or unpatentable over the disclosures of U.S. patent 6,511,778 to Okazaki et al. These rejections are both traversed.

The invention relates to a process for manufacturing half-tone phase shifting mask blanks as well as half-tone phase shifting masks. The process is provided and controlled to prevent optical property variations when the blanks are mass produced by reactive sputtering in an atmosphere containing a reactive gas. The process is characterized by carrying out the reactive sputtering using a target with a metal/silicon composition selected such that a desired phase angle and transmissivity are provided for the half-tone film. The reactive gas flow is provided at a rate such that the reactive sputtering discharge voltage or discharge current does not show a substantial change with regard to a change in the flow rate of the reactive gas. The objective is to stabilize the discharge characteristic relative to changes in the flow rate of the reactive gas thereby producing half-tone phase shifting mask blanks with nominal variation in terms of transmission variation and/or phase shifting amount. *See* in general the discussion on page 27 as well as the working examples and the results of examples 1 and 2 as depicted in Figures 5-7 of the drawings.

In contrast to the procedures described and claimed in the present application Okazaki et al is concerned with making a phase shifter of a film composed primarily of a fluorine-doped metal silicide. The rejections set out in the current Official Action are believed in part to be related to the examiner's concerns of apparent lack of clarity to original claims 1 and 2. These concerns have now been resolved and the differences between the claims now under review and the disclosures of the applied reference will be more apparent. Further, the Official Action quotes various passages from applicants' description/claims as well as various passages from the applied reference but does not actually apply relevant portions of the applied reference to applicants' claims. Accordingly, a *prima facie* case of obviousness has not been established much less one of anticipation.

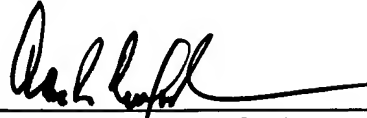
MITSUI et al  
Appl. No. 10/689,527  
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For the above reasons it is respectfully submitted that applicants' claims define novel and inventive subject matter. Reconsideration and allowance are solicited.

Respectfully submitted,

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